REMARKS

Substance of the Interview

Applicant appreciates the Examiner's willingness to conduct a telephonic interview on 8 May 2008. Applicant further appreciates the Examiner's willingness to prepare the Interview Summary. Applicant has reviewed the Examiner's Interview Summary and agrees with the description of the items discussed and the general description of the amendment proposed. However, Applicant respectfully supplements the Interview Summary to clarify Mr. McArthur's assessment of the Examiner's interpretation of Schultz. Specifically, Mr. McArthur appreciates the Examiner's time and assistance in recognizing that wellbore events should be construed broadly to be consistent with the claims of the present application and that such broad construction would not be consistent with the types of arguments and amendments Mr. McArthur was presenting. While Mr. McArthur agreed with the Examiner that the Examiner's interpretation of the Applicant's claim language would read on the Examiner's interpretation of Schultz, Mr. McArthur did not agree with the entirety of the Examiner's interpretation of Schultz. For example, as seen below, Applicant has identified important manners in which the present application and claims differ from the disclosure and teachings of Schultz.

Claims Rejections - 35 U.S.C. § 102(e)

Claims 1, 4, 5, 8-10, 13, 14, 17, 19, 21-23, and 26 were rejected under 35 USC 102(e) as anticipated over US Patent No. 6,536,530 ("Schultz"). In the same manner as the previous office action, Schultz was cited for a system having two valves operating over a designated pressure interval to independently actuate a sequenced set of events by one or more downhole tools based on the application of fluid pressure to the valves. Following the Interview, Applicant has a better understanding of the Office's perspective of the previously-pending claims and the Schultz disclosure. Applicant proposes amendments in this Response to independent Claims 1 and 17 that are intended to further clarify the subject matter claimed in the present application. Applicant respectfully submits that the amendments and remarks presented herein overcome the rejections based on Schultz. Specifically, Applicant submits that Schultz fails to

disclose or suggest a system wherein "two or more valves are arranged to autonomously actuate performance of a sequenced set of events by one or more downhole tools based on pressure during an application of fluid pressure to the two or more valves," as recited in Claim 1. Similarly, Applicant submits that Schultz fails to disclose or suggest a system wherein "the combination of two or more valves autonomously actuate performance of [a] sequenced set of events by one or more downhole tools based on pressure during an application of fluid pressure to the combination of two or more valves," as recited in Claim 17.

The Office Action refers to col. 4, line 28 through col. 5, line 15 as the principle basis for the rejection of the above-listed claims. Applicant understands Schultz to describe a control module 24 adapted to control the actuation of well tool 20 via actuator 22. Applicant further understands Schultz to disclose that multiple assemblies (12, 14, 16, 18) comprising a control module 24, an actuator 22, and a well tool 20 can be disposed in the wellbore, such as in the different isolated zones illustrated in Schultz's Fig. 1 (col. 3, lines 32-47). Applicant further understands Schultz to disclose that each of the assemblies is connected to a hydraulic control unit 40 capable of regulating the fluid pressure applied to the assemblies (col. 3, lines 48-55). Moreover, Schultz discloses that each control module 24 comprises a selecting device and a metering device (col. 4, lines 14-15) and is fluidically connected to at least two hydraulic lines (col. 4, lines 1-9).

Applicant respectfully submits that the differences between the presently claimed invention and the disclosure of Schultz become clear as the relationship between the control modules' two devices, the two hydraulic lines, and the actuator 22 is better understood through a careful reading of Schultz's entire disclosure. For example, Applicant's initial understanding of Schultz's col. 5, lines 1-15, assisted with the Examiner's comments regarding the same, was to conclude that the different well tool assemblies (12, 14, 16, 18) could be independently selected and actuated "by merely varying the pressure on the hydraulic line 38." (Schultz, col. 5, lines 13-15). However, the remainder of Schultz's disclosure reveals that the selection of a particular control module 24 associated with a particular well tool assembly is not effective to actuate or otherwise control the associated well tool 20. As stated by Schultz, the method

disclosed therein includes the steps of "selecting one of the well tool assemblies for actuation by applying a predetermined pressure...; and actuating the selected well tool assembly by applying another greater pressure..." (col. 2, lines 50-53). More specifically, the disclosure referred to in the Office Action (i.e., col. 48, line 28-col. 5, line 15) discloses the equipment and steps to select a given well tool assembly independent from another well tool assembly, but these steps and equipment are not sufficient to actuate the tool assembly. Schultz then proceeds to discuss the steps and apparatus required to actually activate the selected well tool assembly to accomplish an event. Specifically, Schultz discloses that the selecting device 48 is effective to select a given tool assembly and that, once the tool is selected, the metering device 50 is required to actuate the well tool 20.

Applicant notes that Schultz discloses that the actuation of the well tool 20 is possible through the relationship between two hydraulic lines and the metering device 50. In fact, Schultz col. 5, line 16 through col. 6, line 27 describes the complex cycles of increasing and decreasing fluid pressure in the respective hydraulic lines to accomplish the activation of the well tool 20. The well tool 20 is only actuated through alternatingly increasing and decreasing the pressure of one hydraulic line relative to the other hydraulic line in timed intervals to accomplish the desired metering. Effectively, Schultz's various well tools cannot be selected and actuated without the application of multiple fluid pressures, the application of which is controlled by hydraulic control unit 40 disposed at the surface. Schultz, therefore, relies upon relative pressures between two control lines to actuate a downhole tool assembly. Specifically, the control unit 40 (whether operated manually or by a computer) is adapted to apply a first fluid pressure to select the desired tool assembly and then alternates fluid pressures in the two hydraulic lines (by increasing and decreasing pressures in one or both lines) to effect the actuation of the well tool 20.

In contrast, amended Claim 1 recites that the sequenced set of events by the one or more downhole tools are autonomously actuated by pressure changes during an application of fluid pressure to the two or more valves. Applicant notes that when Claim 1 is read as a whole the differences between Claim 1 and the disclosure of Schultz

become that much more apparent. Specifically, it is worth noting that the sequenced set of events occurs in the desired sequence and timing because of the autonomous actuation of the one or more downhole tools to "an application of fluid pressure to the two or more valves." The sequence does not occur because an operator or control unit is applying distinct pressure applications according to a predetermined plan to independently actuate different tools, as disclosed and required by Schultz. Moreover, the sequence does not occur because of varying relative pressure differences in two distinct control lines extending from the surface. In contrast, a single pressure application is applied to the present system, which pressure application may include a single pressure increase or a single pressure decrease, to autonomously actuate the sequenced set of events by the downhole tools. Accordingly, Applicant respectfully traverses the rejection of amended Claim 1 on the basis of Schultz because Schultz does not teach, disclose, or suggest autonomous actuation of a sequenced set of events based on a single application of pressure to the two or more valves.

Applicant appreciates the arguments made in the recent Office Action regarding the sequence of events that occur within the control module 24 of Schultz. However, Applicant notes that the sequence of event characterized in the Office Action is not understood to be the result of a single application of pressure according to the Schultz disclosure. Specifically, Schultz teaches that the "after the control module 42 is selected by an appropriate pressure on the hydraulic line 46, pressure on one of the hydraulic lines 44, 46 is varied to transfer fluid from the other hydraulic line to the actuator 22" (col. 5, lines 23-27). Accordingly, there are at least two pressure applications: one to select and one to actuate. Moreover, the actuation is accomplished only through multiple pressure applications resulting in the variation of pressure on the line, which is described as alternately increased and decreased pressure. Still further, the actuation is only accomplished through differential pressure applications in two control lines. As discussed above, the present claims recite a system that is adapted to autonomously actuate one or more downhole tools based on pressure during an application of fluid pressure rather than requiring multiple pressure applications through multiple control lines controlled by a human operator or computer control unit.

Applicant respectfully submits that Claim 1 is novel and non-obvious over Schultz for at least the reasons presented above. Moreover, Applicant notes that Claims 4, 5, 8-10, 13, and 14 each depend from Claim 1; Applicant submits that each are novel and non-obvious for at least the reasons discussed above. Accordingly, Applicant respectfully requests that the rejection under 35 U.S.C. § 102 be reconsidered and withdrawn for Claims 1, 4, 5, 8-10, 13, and 14.

Turning now to Claim 17 and its dependents rejected under 35 U.S.C. § 102 (Claims 19, 21-23, and 26), Applicant respectfully traverses the rejection in view of the amendments presented herein and the remarks presented herein. Specifically, Applicant refers to the above remarks regarding Schultz and respectfully submits that Schultz fails to disclose an apparatus "wherein the combination of two or more valves autonomously actuate performance of the sequenced set of events by one or more downhole tools based on pressure during an application of fluid pressure to the combination of two or more valves." For the sake of brevity, Applicant refers to the discussion above for support of this submission. While Claim 17 differs from Claim 1 in other respects, the recitation of autonomous actuation based on pressure during a single application of fluid pressure to the valves is the same. Accordingly, for at least the reasons discussed above in connection with Claim 1, Applicant respectfully requests that the rejection under 35 U.S.C. § 102 of Claims 17, 19, 21-23, and 26 be reconsidered and withdrawn.

Claims Rejections - 35 U.S.C. § 103(a)

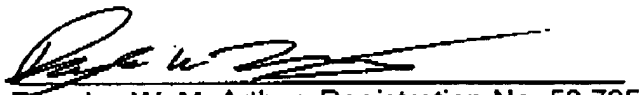
Claims 2, 3, and 18 were rejected over Schultz alone; claims 6, 7, and 20 were rejected over Schultz in combination with Marangoni et al (US Patent No. 6,619,392); similarly claims 11 and 24 were rejected over Schultz in combination with Stone (US Patent No. 4,266,606); and claims 12 and 25 were rejected over Schultz in combination with Patel (US Patent No. 6,293,346). The rejections point out features of cartridge valves, electrical device operation, hydraulic fluids and screens, burst disks, and various intervention steps; however, none of the references teaches or suggests autonomous actuation of a sequenced set of events by downhole tools, based on a single application of fluid pressure to valves of the system, as recited in each of the independent claims

from which these claims depend (Claims 1 and 17). Even if the cited combinations were made, there would still be no disclosure, teaching, or suggestion from the references to perform multiple downhole tool steps from a single pressure application. See Schultz at column 3, lines 53-55 regarding operation of the control unit 40 indicating the requirement of separate pressure applications for each tool event or task. See also Schultz at column 6, lines 59-62 and column 6, line 66 to column 7, line 5 wherein Schultz cautions operators not to excessively increase or decrease pressure on line 46 so as to avoid changing assemblies with the selection devices. Moreover, the references in Schultz to requiring multiple pressure changes in order to actuate a single tool (discussed above) reveal that Schultz fails to disclose, teach, or suggest at least this aspect of the independent claims. Accordingly, Applicant respectfully requests that the rejections under 35 U.S.C. § 103 be reconsidered and withdrawn based at least on the reasons presented above for the claims dependent on Claims 1 and 17.

Turning now to independent Claim 15 and its dependent Claim 16, Applicant notes that amended Claim 15 recites that "the two or more valves are arranged to autonomously actuate performance of said two or more steps based on fluid pressure as the applied fluid pressure varies during an application of fluid pressure on the system of valves." Applicant notes that this language differs somewhat from the language of the independent claims discussed above. However, Applicant submits that Claim 15 recites that the two or more steps are actuated based on fluid pressure from a single application of fluid pressure. The corollaries between this language from Claim 15 and the language from Claims 1 and 17 are apparent. Accordingly, for the sake of brevity, Applicant refers to the discussion above in support of its submission that Schultz fails to disclose, teach, or suggest at least one element of Claim 15. Applicant further notes that Rytlewski et al (US Patent No. 5,704,426) was not cited for disclosure of these features of Claim 15 and does not provide such disclosure. Applicant respectfully notes that Applicant is not hereby agreeing with or traversing the Office's characterization and application of Rytlewski. Applicant respectfully requests reconsideration and withdrawal of the obviousness rejection of Claims 15 and 16.

Applicant respectfully submits that the present Response addresses each of the rejections made in the recent Final Office Action. Applicant further submits that the amendments in this Response present the claims in allowable form. Accordingly, Applicant respectfully requests entrance of the amendments presented herein and reconsideration of the rejections made in the Office Action. In the event that the prosecution of the present application can be advanced by way of a telephonic interview, Applicant invites the Office to contact the undersigned.

Respectfully submitted,



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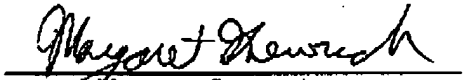

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